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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

JUL 30 1993

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)

Replacement of Part 90 by)

Part 88 to Revise the Private)

Land Mobile Radio Services and)

Modify the Policies Governing Them)

PR Docket No. 92-235

To: The Commission

REPLY COMMENTS
OF THE
NATIONAL ASSOCIATION OF BUSINESS
AND EDUCATIONAL RADIO, INC.

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EXECUTIVE SUMMARY

NABER is very supportive of the concept of refarming the bands allocated to the Private Land Mobile Radio Services below 512 MHz; however, NABER believes that the modified rules and regulations should be structured to provide sufficient flexibility to implement new technologies within the confines of the rules rather than having the Commission regulate by rule waiver. Additionally, the modified rules and regulations must provide for a graceful migration and transition period for existing users and ensure that the critical and vital functions that existing systems serve today can still be met tomorrow under the modified rules.

The Commission has an extensive record on which to base its actions in this matter, but the majority of the parties to this proceeding do not support the Commission's original proposal. In fact, there are a large number of alternative proposals set forth in the numerous pleadings. Nevertheless, NABER urges the Commission to focus on those areas where consensus has been reached and form the regulatory structure based on the principles set forth in these comments. NABER, in these Reply Comments, identifies for the Commission those areas where a majority of parties agree on a particular concept.

NABER reiterates its position that the Commission should not mandate any one very narrowband technology channeling plan in this proceeding. An initial channel split and gradual transition period to a true 12.5 kHz bandwidth channel should be implemented. The issue of whether the spectrum should be split to a very narrowband

channel should be readdressed in several years, after the Commission has the opportunity to review the results of its set aside of the two megahertz of spectrum in the 220-222 MHz band for 5 kHz operations.

NABER encourages the Commission to continue its willingness to engage in discussions and presentations of interested parties in connection with this proceeding. The complexity of the issue in this proceeding and the potential impact to the over 12 million private land mobile radio users requires the Commission and the

~~industry to work together~~

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The National Association of Business and Educational Radio, Inc. ("NABER"), by its attorneys, pursuant to Section 90.415 of the Commission's Rules, 47 C.F.R. § 90.415, respectfully submits its Replies to the Comments that were filed in response to the Notice of Proposed Rule Making ("Notice") adopted by the Commission on October 8, 1992 in the above-styled proceeding.¹

I. PRELIMINARY STATEMENT

In the Notice, the Commission proposed to re-write Part 90 to streamline the current rules and to create additional available capacity in the bands allocated to the private land mobile radio services below 512 MHz as well as adopt rules to effect greater spectrum efficient use of these bands (hereinafter referred to as "refarming"). The Commission proposed an extremely aggressive time

¹ Notice of Proposed Rule Making (FCC 92-469), PR Docket No. 92-235, 57 FR 54034 (November 16, 1992). The original Comment date of February 26, 1993 and Reply Comment date of April 14, 1993 were extended by Order Extending Comment and Reply Comment Periods (DA 93-145), PR Docket No. 92-235, 58 FR 8731 (February 17, 1993) to May 28, 1993 and July 14, 1993, respectively.

table for the migration and transition to operation by existing users to very narrowband channel band width technologies as well as significant reduction in the effective radiated power that existing stations may operate.

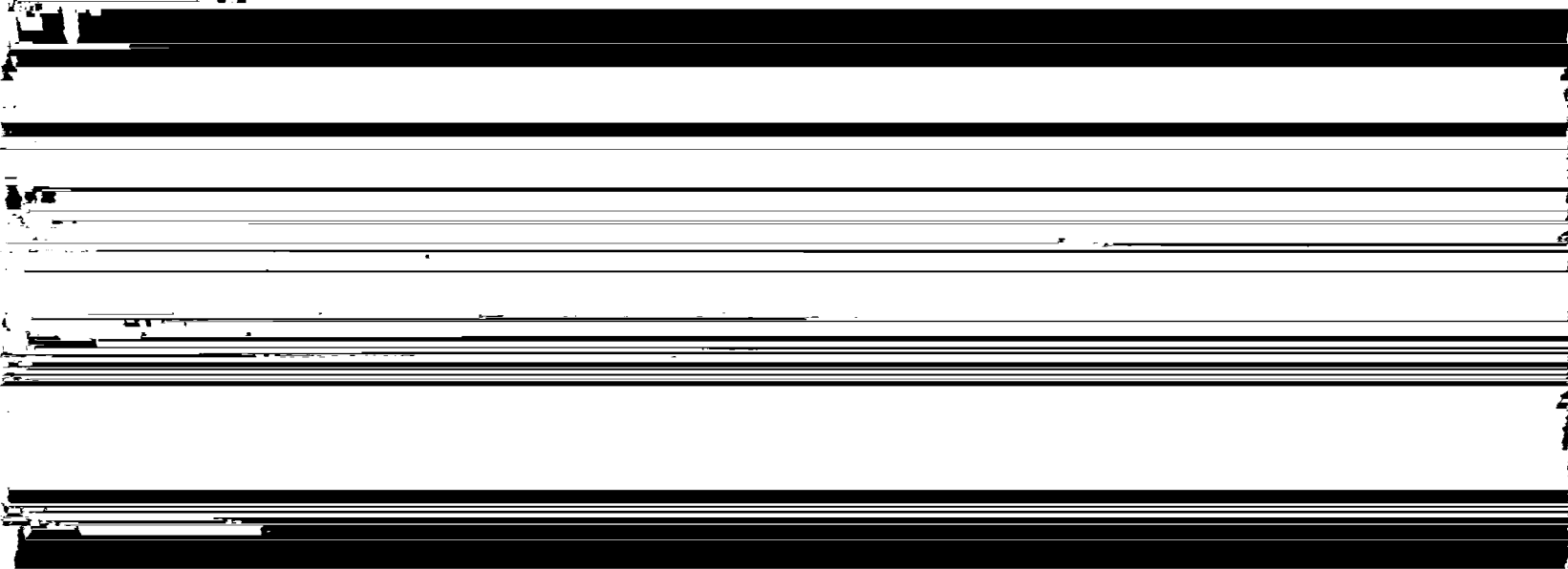
Generally, most individual licensees and the industry groups which represent the majority of the private land mobile radio users support the concept of "refarming." Most PLMRS licensees and industry groups recognize that the nature of the channels below 512 MHz, i.e. the congestion on the channels in many urban areas and the shared use of the channels, have caused these channels to not be able to readily support additional mobile units or the implementation of spectrum-efficient technologies, such as trunking. Without some regulatory relief, gridlock may occur on these channels in major metropolitan areas with adverse results to all PLMRS licensees. Accordingly, the benefits of refarming are widely understood and supported. Nevertheless, most licensees find that implementing changes to the physical infrastructure currently in place within the time frames proposed by the Commission is economically unfeasible and would seriously impact system operation. Further, the majority of the system users are extremely concerned with the Commission's requirement for very narrowband channel spacing when the technologies remain relatively unproven to date.

The Commission must understand that the PLMRS industry, including the licensees, trade associations, manufacturers, and vendors, is seeking to work with the Commission to obtain final

rules and regulations that benefit the existing 12 million users as well as new applicants. However, while many of the individual users groups have valid requirements, the Commission should not be diverted by those concerns that seek to keep one user group as an independent island around a sea of change. Otherwise, each user group may receive its own island status, and the impact of the modified rules will be the same as if the Commission failed to change the rules.

Further, the industry is vitally interested in ensuring that the Commission meet its goal of increasing the spectrum efficient use of the bands below 512 MHz in a manner consistent with operational requirements. With the United States being a leader in the telecommunications industry, due care must be taken to support the continued explosive growth of private land mobile radio. The Commission's rules and regulations and allocation decisions in this proceeding must allow users to choose land mobile products and technologies which meet their needs for reliability, functionability, and costs.

Certainly, the Commission's job is not easy in this proceeding. As reflected by the Comments, there are multiple requirements of various types of land mobile users that must be



assist the Commission in melding the various positions to form a consensus and ultimately a regulatory scheme that serves the critical needs of the PLMRS licensees and users.

II. REPLY COMMENTS

A. Channel Splitting

Notwithstanding persons who are adamantly opposed to any changes in Part 90,² the consensus of the majority of the parties commenting in this proceeding is that the Commission should adopt rules that provide for a modified channel plan for the bands below 512 MHz. Similar to NABER, a number of parties also opposed the requirement simply to reduce the deviation of existing 25 kHz equipment to obtain 12.5 kHz bandwidth operations. Without similar reduction to the receiver bandwidth, little, if any, benefit would be obtained to create additional usable spectrum and significant adverse results would occur to existing operations. Another constant theme in the Comments was opposition to a schedule that would require equipment changeout without an appropriate period of time to permit amortization and obsolescence of the existing and new equipment. Of great concern, especially to licensees of

conversion periods. Although many parties agreed to these concepts, the methods by which they are achieved were diverse.

NABER proposed a two-step process to meet the goals established by the Commission as well as goals established by NABER's Refarming Task Force. However, NABER emphasizes that its two-phase process does not necessarily require a licensee to changeout its equipment twice within the twenty year timeframe

incumbent licensees provide concurrence and the licensee can demonstrate the spectrum efficiency of the proposed use; and (4) no later than January 1, 2004, all primary channel licensees would be required to operate on no more than 12.5 kHz bandwidth channels; licensees operating on 25 kHz or 30 kHz bandwidth channels would be considered secondary (unless spectrum efficiency criteria met.)

The next transition, if necessary, would not occur until the first renewal date of the existing system after 2009. A further reduction in channel bandwidth would only occur if the licensee could not demonstrate compliance with an efficiency standard being developed by TIA. NABER is confident that an existing licensee under this method may need to convert current equipment during the next ten years, but further conversion will not be required other than routine replacement of equipment.

Like a majority of the Commenters, NABER encourages the Commission to withhold any further mandatory reduction in channel bandwidth less than 12.5 kHz at this time. The Commission does not have sufficient information available to warrant a mandatory conversion to either 6.25 kHz or 5 kHz bandwidth channels. The Commission has allocated two megahertz of spectrum in the 220-222 MHz band to permit the development of 5 kHz narrowband technology. Until the equipment is placed in operation and a full compliment of base, vehicular and portable equipment is available and operating in a loaded environment, the practical utility of narrowband operations is unknown. To mandate the technology in a congested spectrum such as the 150-170 MHz band without analyzing

the results of the 220 MHz allocation is not wise spectrum management.

NABER, therefore, urges the Commission to implement a channel plan for 12.5 kHz bandwidth channels in the 150-170 MHz and 450-512 MHz bands. Voluntary provisions for 6.25 kHz or 5 kHz channel use with a 6.25 kHz channel "slotting" scheme as proposed by NABER should be implemented, but not mandated at this time. NABER recognizes that there is great controversy as to whether 5 kHz or 6.25 kHz is the more spectrum efficient channeling plan. Each side is equally convinced that their plan is correct. However, NABER is reluctant to endorse either a 5 kHz channel plan or a 6.25 kHz channel plan until practical experience with very narrowband equipment is gained at 220 MHz. NABER is concerned that the Commission will drive the marketplace to a specific technology prematurely rather than encourage the development of more spectrum efficient products meeting users' requirements.

NABER's recommended approach, "Bandwidth On Demand" based on 12.5 kHz channel assignment with an underlying 6.25 kHz "slotting" plan, provides sufficient flexibility for the implementation of whatever technology (a) is found to be more spectrum efficient and (b) meets the telecommunications requirements of the private system. Additionally, the "Bandwidth on Demand" approach accommodates both 5 kHz and 6.25 kHz channel bandwidth technology, and permits the user to choose the technology best suited for its system's operations. One purpose of private systems is to permit the licensee to design a system that best suits the needs of the

business which cannot be effectively or efficiently provided by
common or private carriers. Private systems are not "one-size fits

all" systems. Thus, the Commission's rules must recognize the

non-site specific, low-power operation.⁴ It should be noted that the Business offset channels in most major metropolitan areas are more heavily licensed than are the high-power frequencies. Therefore, NABER recommends that all of the offset frequencies that become primary are designated for low power operations. Generally, NABER believes that a six watt effective radiated power would be considered low power.⁵ Given the particular needs of NABER's members, such low power operations will also improve spectrum efficiency compared to higher power systems.

D. Use of Mobile Relay Stations in the 150 MHz Band

A number of ~~concerns have been expressed that the ability to~~



not intend to eliminate this provision, but may have overlooked it during the re-write.

However, NABER is concerned that with the complexity and size of this rule making proceeding and the arbitrary time constraints placed on the proceeding, that other footnotes may have been eliminated that appear to be obsolete, but provide relief to some section of the private land mobile radio services licensees. The footnotes that exist in Part 90, in most cases, were not to prohibit but to expand the operations of various stations in the particular radio services. Therefore, merging redundant footnotes to streamline the rules may have no adverse affect, but eliminating a footnote may result in a limitation being re-established. Accordingly, NABER urges the Commission to accept late-filed comments should such examples be found in the next several months.

E. Urban v. Rural Systems

A number of parties commenting in this proceeding who are located in rural areas raised the issue of the transition and migration of their systems, when the problems identified as reasons for refarming do not exist in these areas. They are concerned that they will be forced to follow the same transition/migration plan as do licensees in the metropolitan markets when there is currently no need for such conversion. NABER agrees that urban and rural areas have differing needs. However, NABER is aware that the definition of a urban/rural areas is difficult to determine, and generally cannot satisfy all parties. Nevertheless, NABER is confident that ultimately systems in rural areas, where spectrum

congestion does not currently exist and may never exist, will convert to more spectrum efficient technology as the existing equipment becomes obsolete. Certainly the rural users should be provided the same incentive to convert to more spectrum efficient technology, but should not be penalized for not doing so. Therefore, NABER supports the proposal to permit licensees not wishing to convert to 12.5 kHz or very narrowband technologies to continue to operate on a secondary, non-interference basis. NABER believes that all interests will be served in this manner without the Commission having to arbitrarily determine "rural" vs. "urban" areas.

F. Coordination Issues

NABER's proposal to consolidate the nineteen radio services into five service pools was supported, in concept, by a number of commenters.⁷ For the most part, those parties agreeing with NABER's suggestion for five service pools differed on which radio services should comprise the service pools in the two industrial radio service pools, but overall the recommendations for five pools were similar. NABER, therefore, urges the Commission to consolidate the private land mobile radio services into five service pools: (1) public safety; (2) Industrial I; (3) Industrial II; (4) Business; and (5) Land Transportation.

NABER, however, takes issue with those Commenters that recommended "open coordination" within the consolidated pools,

⁷ See Comments of Utilities Telecommunications Council ("UTC") and E.F. Johnson Company.

i.e., multiple coordinators. As discussed in NABER's comments, multiple coordinators may cause an adverse impact on the frequency coordination process and ultimately the Commission's processing of applications. NABER believes that consolidation of the frequency coordinating committee may naturally occur once the services are consolidated. However, the Commission should provide a structure to ensure that coordinators abide by a standard procedure should multiple coordinators be certified for the five service pools.

G. Channel re-use criteria/Limit on ERP Based on HAAT

The Commission received very little support in connection with its proposal to limit the ERP of a station based on its HAAT. In many cases, a station would be limited to an ERP of 5 watts. The proposal was based on a channel re-use standard of 50 miles. The problem with the Commission's chart is that it is premised on a carrier-type operation rather than systems engineered for the specific requirements of a private system.

Generally, a private land mobile system is designed to cover a specific service area, whether it is defined by political boundaries such as many public safety systems, it follows a pipeline, or it covers the metropolitan service area for a dispatch-type business, such as a plumber. There may be cases in which an applicant has designed a system which is overpowered, for the most part most applicants limit the technical requirements of their systems to what is needed.

Accordingly, NABER urges the Commission at a minimum to utilize the concept of the "safe-harbor" tables set forth in the

LMCC consensus plan.⁸ However, NABER believes that its "Pools for Power" would provide the proper incentive to an applicant to design its system to reflect the coverage area desired. This mechanism permits the applicant to determine whether exclusivity of a channel is a priority for the applicant's system or whether other factors, such as the number of base stations needed to cover an area, are more important.

NABER also supports the authority of frequency coordinators to request sufficient documentation to support any coordination requests to verify a system design, should it be required.

H. Grandfathering of Paging-Only Frequencies

Additionally, NABER notes that in Appendix A of the Notice, Proposed Rules Discussion, the Commission states that it proposes no changes to power limitations for paging operations. Nevertheless, neither the proposed rules sections pertaining specifically to paging operations, Sections 88.1059 through 88.1079 nor Section 88.1563, Grandfathered power/antenna heights and bandwidths, exempt paging operations from the proposed ERP/HAAT requirements of Section 88.429. A specific exemption is necessary to conform with the Commission's intent and existing paging licensee's requirements that no changes to the power limitations be made.

⁸ As explained in the LMCC Comments, the safe harbor tables were derived from the FCC R-6602 propagation curves. The format of these tables provided an effective vehicle for determining co-channel separation, even if the values are adjusted for different propagation methods.

Finally, NABER supports the recommendations by certain paging concerns that the Commission permit licensees on paging-only frequencies that obtain exclusivity the ability to increase the

Conversely, several mass media concerns argued that the Commission should take expeditious action on this matter, and allocate even more spectrum to the mass media licensee because these licensees are introducing new technologies, such as HDTV. In fact, the Commission was requested to recover all the UHF TV spectrum allocated for land mobile use, and terminate the proceeding to share such spectrum

NABER, however, agrees with the parties that urge the Commission to scrutinize the use of spectrum by all Commission licensees, including those licensed in the mass media services, to ensure that all licensees are utilizing their spectrum efficiently. Currently, there is an explosion of new mobile services that are in an ever-increasing demand for business and personal use. A number of private land mobile radio licensees are initiating the introduction of digital technologies and extensive frequency re-use in the 800 MHz bands to expand capacity of systems in major metropolitan markets. On the other hand, existing broadcasting licensees are opposing the creation of additional broadcast outlets, such as AM and FM drop-ins and digital Broadcast satellites, on the basis that the marketplace will not support additional competition in the broadcast areas. Further, some broadcasters are not planning on conversion to digital technologies because of an alleged lack of financing. Accordingly, providing additional broadcast spectrum to existing licensees and not requiring them to initiate spectrum efficient technologies is inconsistent with the Commission's stated goals in this proceeding.

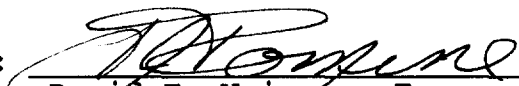
Further, the private land mobile radio services, even with refarming, will still not have sufficient spectrum to provide for some future uses of the spectrum. As more data technologies become available and are introduced in the work place, businesses will require spectrum on which to operate increasingly wider band data and even video. The number of new mobile requirements demanded by business users will only increase the need for additional land mobile spectrum allocation. Therefore, the Commission should decline to take the action requested by some mass media concerns.

WHEREFORE, THE PREMISES CONSIDERED, the National Association of Business and Educational Radio, Inc. respectfully requests that the Commission take action as set forth in these Reply Comments.

Respectfully submitted,

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